Community Preservation Act Committee
Proposal Request Form for FY2016
Date: December 7, 2015

Submitting Entity: Emily Dickinson Museum
Contact Person: Jane Wald, Executive Director
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Overview of Proposal: -- Please describe your project and your feasibility analysis
This proposal requests $200,000 in CPA funds to help protect The Evergreens, a component structure of the Emily Dickinson Museum, from catastrophic loss by fire. The current project is part of a larger infrastructure plan (summary in Attachment A) to secure both Dickinson houses and their collections from fire, decay, and poor environment.

The selected system is a high pressure water mist system, increasingly used in museum, library, and archival settings for its ability to extract oxygen very quickly from active fires and to limit water damage to furnishings, art, finishes, and paper. This combination wet and dry system provides a high pressure (nominal 1,000 psi) water mist throughout the entire building. It will be connected to the existing fire alarm system to provide notification of flow (fire) and fault (closed valve, low system pressure) and will be annunciated to accurately indicate the respective condition in a specific location. Water mist will be provided by dedicated tanks of nominal 4,000 liter capacity with system pressure provided by compressed nitrogen powered pumps. The system will not require connection to the public water service or to an electric power source. The system will be designed to National Fire Protection Association (NFPA) Standard #750 *Water Mist Sprinkler Systems*. (Engineer's recommendation in Attachment B.)

Context and Feasibility
The Emily Dickinson Museum was established in 2003 when the separately owned Dickinson Homestead and The Evergreens were joined as a single museum devoted to public education and interpretation of the life and work of poet Emily Dickinson and her family. From its founding, the Museum has continuously monitored the condition of the Dickinson Homestead, a National Historic Landmark built circa 1813, and The Evergreens, a contributing property to the Dickinson National Historic District and listed on the State Register of Historic Properties. In conjunction with the development of a Master Plan for the entire property in 2005-2006, the Museum created a plan for systematically resolving deferred maintenance and critical infrastructure issues related to the two houses. Over the course of twelve years, the Museum raised substantial funds for and completed the installation of perimeter drainage systems, replacement of electrical systems, installation of fire detection, completion of structural and landscape documentation, repair of structural weaknesses at the Homestead, and more. (Please see details in Attachment C.)

At the same time, the Museum took up a series of smaller restoration projects to maintain visible progress while less visible infrastructure projects progressed. These included restoration of the prominent perimeter hedge and fence, restoration of the poet's bedroom, archaeological study, landscape improvements, and plans for reconstruction of Emily Dickinson's conservatory. All of these restoration projects were funded through private gifts.

In 2012, a Massachusetts Cultural Facilities Fund (MCFF) Technical Assistance grant, matched by other fund-raising, allowed the Museum to complete an analysis of systems options and prepare design documents for the next critical steps in the sequence laid out in the Master Plan: exterior repair/restoration of The Evergreens, fire suppression and HVAC systems. The total cost of all these improvements is $2.1 million. A 2014 MCFF grant of $380,000 (matched by $380,000 in private funds) allowed the Museum to proceed with its two highest priorities – repair/restoration of The Evergreens' building envelope and fire suppression for the Dickinson Homestead. Both these projects will be completed by June 2015.

The subject of the current proposal – fire protection for The Evergreens – is the next critical step in the Master Plan. It builds directly upon the physical and programmatic accomplishments noted above and meets an always-looming challenge: the potential for devastating loss of The Evergreens, a unique literary and historic landmark, to fire.

This project will ensure that the full Dickinson site will remain undisturbed as a significant community asset and cultural tourism destination while advancing the Museum's public service mission to preserve and restore the site and interpret the poet's life and work.

Describe how your request meets the CPA criteria:

1. **Description of funding needed, including:**
   a. **Documentation of cost estimates**
      The cost of installing fire protection in The Evergreens is $410,000. (Please see Attachment D.) This estimate is based upon actual competitive bids received in February 2015 and on a current architect and engineer fee proposal. Our funding request is for $200,000, less than half the total cost of the fire suppression project and just 9% of the cost of the overall infrastructure plan.

   b. **Other sources of funding, e.g., grants, self-funding, fund-raising**
      As noted above, the Emily Dickinson Museum has secured $760,000 from public and private sources for an earlier stage of this same infrastructure plan. The Museum has a commitment for a one-to-one match of any CPA funds awarded up to $200,000.

c. Timeline on how CPA funds, if awarded, would be spent, including over multiple years

If awarded, installation of a fire system for The Evergreens would occur during January and February 2017 while the house is closed to the public.

2. Urgency of Project, if any

The Evergreens and its collection are highly significant to the literary and cultural history of our town, Commonwealth, and nation. Its loss to incidence of fire would be a critical injury to the story of this country's premier poet. The Evergreens' unique feature is the integrity of its nineteenth-century décor and furnishings. These include a collection of approximately 8,000 Dickinson family artifacts including fine and valuable paintings, family furniture and personal possessions. An unusual clause in the last owner's will requires the museum to maintain the collections in the house permanently except in extraordinary circumstances. The Museum and community have been fortunate that neither Dickinson house has faced a fire threat up to now, but such an accident cannot be predicted.

This project is among the final systems improvements that will clear the way for authentic restoration of the Dickinson family homes inside and out. Failure to meet these remaining needs will put this cultural resource at risk and impede the Museum's public mission of education, preservation, and interpretation.

3. Estimated timeline from receipt of funds to Project completion

The Emily Dickinson Museum completed design and construction documents in a previous phase with grant and private funding. Installation of fire suppression will be complete by March 30, 2017.

4. Acquisition or preservation of threatened resources

The Evergreens captures a memorable era in Amherst's nineteenth-century history. It was a gift of Emily's father, Edward Dickinson, to his son Austin at the time of his marriage in 1856. Father and son were both treasurers of Amherst College for a combined total of 67 years. Both served as Town Moderator. Austin was heavily involved in town beautification and public utilities projects and was one of Amherst's most energetic civic leaders. Designed by prolific Northampton architect William Fenno Pratt, The Evergreens was, in its hey-day, is an impressive example of Italianate domestic architecture and became a center of the town's social and cultural life. Emily Dickinson was very close to her brother and his family and made frequent visits to the house next door to hers. Her sister-in-law Susan was a lifelong friend from whom Emily Dickinson solicited editorial advice. Martha Dickinson Bianchi, Emily's niece, was an author in her own right and eventually become editor of numerous collections of her aunt's poetry and biography.

Austin and Susan Dickinson lived at The Evergreens until their respective deaths in 1895 and 1913. Martha, their only surviving child, continued to live in the house, and preserved it without change until her own death in 1943. Her heirs recognized the historical and literary significance of a site left completely intact: the house is still furnished solely with Dickinson family furniture, art, household trappings and decor from the nineteenth century. Some of its approximately 8,000 collections objects had been part of the contents of the Homestead;most had originated with the Austin Dickinson family during their residence at The Evergreens.

The importance of protecting The Evergreens has been recognized at many different levels. It is listed on the State Register of Historic Places, is a constituent historic property of the Dickinson National Register District and of the Dickinson Local Historic District. Both the Massachusetts Historical Commission and the United States Department of the Interior through the National Park Service hold a permanent preservation deed restriction on the building and the landscape. Any major changes to, repairs or restoration of The Evergreens is subject to the review and approval of the Massachusetts Historical Commission, which also serves as the State Historic Preservation Office of the U.S. Department of the Interior. Changes visible from the public way are also subject to review and approval by Amherst's Local Historic District Commission.

5. **Population(s) to be served by the Project**

The Evergreens is open to the public 200 days per year, March through December. The Emily Dickinson Museum serves approximately 14,000 on-site visitors each year as well as nearly 300,000 unique online visitors. According to survey data, a large proportion of visitors come to town specifically to visit the Emily Dickinson Museum. About 25% make day-trips from outside the area, and more than 50% intend to stay overnight. Nearly 75% of EDM visitors shop and visit other cultural or recreational attractions in the area during their visit. Our 14,000 visitors cumulatively add more than $1 million to the local economy each year.

Students, faculty, and classes from each of the four colleges and the University use The Evergreens as a resource for American Studies, Public History, English Literature, Gender and Women's Studies, Art, Theater, and other fields. Area students at middle and high school levels focus on The Evergreens for school research projects. Local elementary school students visit the Emily Dickinson Museum in large numbers as part of local history curricula.

6. **How will the CPA investment in your property, facility or project be maintained over time?**

The Emily Dickinson Museum has a cyclical maintenance plan and building reserve fund for upkeep of the property on an ongoing and emergency basis. The fire suppression system will be continuously monitored and formally inspected twice annually. The CPA investment will yield even more significant returns by enabling the Museum to add value to the visitor

experience with stabilization, conservation, and restoration of The Evergreens' delicate interiors and large collection. With this prospect in mind, the Museum will bring in a grant-funded consultant for a collections conditions assessment in spring 2016.

7. **How the Project is prioritized by requesting Town committees or commissions?**
   This proposal will be reviewed by the Amherst Historical Commission at its December 14 meeting.

8. **Other information regarding the Project deemed necessary for CPAC**

   Attachment A: Summary Infrastructure Plan

   Attachment B: Engineer's Recommendation

   Attachment C: Project Budget

   Attachment D: Photographs of Evergreens' Interior

   Fire suppression detailed scope of work, design and construction documents available upon request

Attachment A

Emily Dickinson Museum
Summary Infrastructure Plan

The infrastructure plan largely completes the first phase of the Museum's Master Plan and leads step by step to fulfillment of the Museum's primary objective to provide ways for the public to experience the power of Emily Dickinson's poetic legacy. One of the four principal goals of our strategic plan addresses the attentive stewardship of buildings, grounds, and collections. The 2006 Master Facilities Plan guides the restoration and site development portion of this goal. The full Master Plan is based on the following fundamental assumptions: EDM will be the premier location for Dickinson study and interpretation; it will eventually restore both houses and grounds and provide appropriate housing for its collections; its audience goals exceed its current capacity; cultural tourism at this level will require expansion of staff and facilities.

To that end, the Emily Dickinson Museum has systematically addressed repair, infrastructure, and documentation of the buildings in priority order. Its commitment to completing infrastructure and deferred maintenance projects will ensure the security and integrity of the two historic structures before extensive restoration or new construction. The historic nature of the structures dictates that infrastructure improvements precede full restoration so that the building fabric is not compromised by multiple interventions. Our deliberate approach now allows us to resolve the three remaining threats to the buildings—fire, decay, and poor environment—and set the stage for significant restoration of the structures and landscape.

A successful project will fully activate the iconic Emily Dickinson site as a tourism destination and advance its mission to preserve, restore, and interpret the poet's life and work. The plan consists of:

1. **Repair of The Evergreens' building envelope and restoration of its historic roofline with interior gutter system.** Extreme wet conditions have taken a toll on exterior carpentry over the past 158 years. The integrity of wood decking, siding, and window frames is failing. Full carpentry repairs and paint sealing of the building envelope will arrest further deterioration. An effective drainage system for ground water and run-off and an HVAC system will extend the life of these repairs.

2. **Installation of a high pressure water mist fire suppression systems** in the Homestead and Evergreens. Neither house is currently served by a fire suppression system. The project design calls for a combination wet and dry system connected to the existing fire alarm system.

3. **Heating Ventilation and Air Conditioning systems.** Museum use requires an environment appropriate for storage and display of a large collection of Dickinson family artifacts, art and furnishings. A study of environmental conditions for collections by the Massachusetts Board of Library Commissioners in 2014 found that neither house, especially The Evergreens, can maintain adequate conditions for collections with current mechanical systems. Plans call for new appropriately-sized Air Handling Units, new chillers and boilers with sufficient capacity to control temperature and humidity for the structures, collections, and people. System design accommodates the routing needs of a fire suppression system.

Project sequencing will be arranged to address highest priorities first and to minimize negative impact on the Museum's public schedule. The Evergreens building envelope was assessed as the most critical of the three components. Repairs were completed in summer 2015. Fire suppression systems are next in order of priority. Interior work at the Homestead will be accomplished during January and February 2016 when the museum is closed to the public. With funding, installation of fire suppression equipment at The Evergreens will be scheduled during the January and February 2017 to avoid negative impact to tours and programs during the tourism season.

Infrastructure Plan Summary Budget
(2016 CPA request and match in **bold**)

		Construction	A&E Fees	Contingency	Total
Project 1:	Evergreens Exterior	$223,000	$25,700	$22,300	$271,000
Project 2:	Fire Suppression				
	Homestead	405,600	34,400	22,000	462,000
	Evergreens	**355,800**	**34,400**	**19,800**	**410,000**
Project 3:	Heating, Ventilation, Cooling				
	Homestead	544,000	44,000	27,000	615,000
	Evergreens	341,000	29,000	17,000	387,000
Total		$1,869,400	$167,500	$108,100	$2,145,000

Attachment B

Heritage Protection Group _____

Emily Dickinson Museum
Evergreens Fire Suppression Narrative & Recommendation
06 April 2015

Once a fire has started it must be controlled and extinguished. Under current arrangements if a fire occurs the Amherst Fire Department will be needed to suppress a fire in the Evergreens. The nearest fire station is a full time department that has an estimated response time of 3-4 minutes. However this assumes that they are able to respond, and not handling a simultaneous emergency that would in turn require a response from a more distant fire station. When the first fire truck does reach the burning structure it will then need to secure a fire fighting water source and establish a fire control strategy. This can substantially add to the time in which the first hose is actually put into action. A 15-20 minute period from the time of alarm to the first attack is realistic for this structure. Based on the probable fire scenarios and the fire department response periods, if a fire starts in a high fuel load space the building will be significantly damaged before fire-fighting efforts commence. Automatic fire suppression can help to meet preservation objectives.

High Pressure Water Mist Sprinklers

System Description

This option will provide a high pressure (nominal 1,000 psi) water mist sprinkler system throughout the entire building. This will be a combination wet and dry system. It will be connected to the existing fire alarm system to provide notification of flow (fire) and fault (closed valve, low system pressure) and will be annunciated to accurately indicate the respective condition.

Water will be provided by dedicated tanks of nominal 4,000 liter capacity with system pressure provided by compressed nitrogen powered pumps. The system will not require connection to the public water service or to an electric power source.

The system will be designed to National Fire Protection Association (NFPA) Standard #750 *Water Mist Sprinkler Systems*. As such piping will be hydraulically sized to operate the most remote 9 sprinklers, each flowing approximately 2 gallons per minute (gpm) as opposed to 15-20 gpm for standard sprinklers. Total estimated design flow, accounting for individual sprinkler flow fluctuations will be approximately 18 gpm as opposed to 240-260 gpm for standard sprinklers.

Components

- Piping for the entire system will be high pressure stainless steel with stainless steel compression type fittings.
- Sprinklers will be a combination of styles depending on the specific location within the building.
- As a general concept all exposed pipe sprinklers in the basement, attic and in secondary spaces such as closets will be low profile, standard frame models.
- Operating temperatures will be nominal 135-165 degrees F with the exception of attic sprinklers that will be higher temperature rated (nominal 200 degrees F) to avoid inadvertent operation during summer months.
- The majority of the sprinklers on the first and second floor will be pendent (ceiling) or sidewall models and finishes can be color matched to existing finish colors. There are no concealed mist sprinklers available.
- Pipe placement will be exposed in the basement and attic, placed to avoid conflict with existing mechanical and electrical equipment and to minimize visual impact.
- On the first and second floors pipe will be run exposed in secondary spaces or concealed in wall or ceiling framing.
- For the first and second floor public exhibition spaces all pipe will be concealed.
- In non-public areas, i.e. offices, the design intent is to place pipe in concealed spaces but where it is run exposed it shall be located to minimize visual impact.

System Advantages

Extremely low water use when compared to standard pressure sprinklers.
System will function if public water or electric service is interrupted.
Most effective water based automatic fire suppression technology suppressing fires at the fastest rate.
Lower water saturation and expected mold growth
Lower recovery costs when compared to conventional systems.
Extremely durable components with a life expectancy that exceeds 100 years. This may produce a long term cost savings since the equipment is expected to last more than 2-3 times the life of standard sprinklers.
Clean water discharge
Smallest tube dimensions, which can minimize visual impact.
High level of design flexibility
Due to specialized installation requirements the certified contractors are among the highest quality firms available.
Installation of a new water main to each house is not required

System Disadvantages

Few equipment manufacturers.
Fewer component styles, including a lack of concealed style sprinklers.
Fittings are dimensionally substantial and require careful placement to minimize visual impact
Installation techniques are more precise and require specialized installation firms.
Relatively few installation contractors to install the system.
Limited duration (30 minute) water supply.
Highest annual maintenance costs
Space required in each house to place pump, nitrogen cylinders and water tank

Fire Suppression Summary:

High pressure mist offers the best fire suppression capability for the building with the least amount of potential damage. If the system purchase and installation cost and maintenance can be afforded this is the recommended choice.

Attachment C

Documentation, Planning, and Interpretive Reports, 2004 to present

2004	Architectural Conservation Assessment *Heritage Preservation CAP grant*
2004	Collections Conservation Assessment *Heritage Preservation CAP grant*
2004	Historic Landscape Documentation
2006	Master Plan *Save America's Treasures grant* **Landscape Assessment funded by $15,000 CPA grant**
2007	Furnishings and Exhibit Plan *Institute of Museum and Library Services grant*
2007	Landscape Interpretive Plan *Institute of Museum and Library Services grant*
2009	Cultural Landscape Report *Massachusetts Cultural Facilities Fund grant*
2009	Evergreens Historic Structure Report *Massachusetts Cultural Facilities Fund grant*
2009	Finishes Report for The Evergreens and Fence Architectural Conservation Services
2010	Dickinson Homestead Architectural/Structural Report Mesick Cohen Wilson Baker Architects Gibble Norden Champion Brown Engineers
2012	Design for Fire Suppression, HVAC, Evergreens Repairs *Massachusetts Cultural Facilities Fund grant*

Master Plan Progress

	Critical Issues
2006	Fire detection at the Homestead and Evergreens
2006	Replace electrical system at Homestead
2006	Remedy water infiltration at Homestead
2013	Homestead Cellar Structural repair
2014	Remedy water infiltration at Evergreens
2015	Evergreens exterior repair
2016-	Fire suppression at the Homestead and Evergreens
TBD	HVAC systems at Homestead and Evergreens
	Existing Structures
2009-	Implement Furnishings Plan as feasible (in process - five rooms complete)
2015-	Homestead restoration of first and second floor spaces
TBD	Evergreens architectural and decorative finishes restoration
	Landscape
2009	Replant hemlock hedge and reconstruct fence on south and east sides
2015-	Ground penetrating radar and/or archaeology (in process)
2009-	Implement recommendations of Cultural Landscape Report (in process)
	New Buildings
Fall 2016	Reconstruct Conservatory
TBD	Dismantle Garage
TBD	Reconstruct outbuildings – Homestead Barn & Evergreens Carriage House

Attachment D

Schedule of Costs: Evergreens High Pressure Mist Sprinkler

General Requirements	$36,500
Equipment	$5,600
Demolition	$5,000
Carpentry	$2,000
Fireproofing	$1,000
Drywall	$5,600
Painting	$2,300
Electrical	$10,000
Fire Protection	$287,800
Subtotal	$354,800
Architect/Engineering Fees	$34,400
Contingency (5%)	$19,800
Total	$410,000

Attachment E

Photographs of The Evergreens' Interior

These photographs illustrate the sensitivity of The Evergreens' interior finishes and furnishings. The proposed fire suppression system will minimize destruction of the finishes and wallpaper by fire or excessive water flow.

Evergreens Front Hall with 1850s Dickinson family furnishings, painting by Azzo Cavazza, 1848

Evergreens Parlor with paintings by Sanford Gifford, Arthur Parton, John Kensett, Hans Gude

Evergreens Parlor with Dickinson family furniture including Steinway piano

Evergreens Library with Dickinson family carpets, furnishings, art acquired 1856-1895,1895 frieze

Evergreens Dining Room furnished with original furniture, china 1828 family sideboard, 1880s wallpaper, floor and ceiling

Evergreens Kitchen as it is today, and was in the nineteenth century

Evergreens back hall: maid's room and nursery on right, loft and water closet on left

Evergreens maid's room occupied by Irish immigrant "maids of all work"

Evergreens Nursery with children's toys and clothing

Evergreens Nursery with children's toys and scrapbook art pasted on doors

Example of an Evergreens bedchamber

Evergreens art along front stairs